

Investigate and determine the relationship between the diameter and circumference of a circle and the value of pi; calculate the circumference of a circle.

Identify the relationship between areas of triangles and rectangles with the same base and height.

Use models to develop formulas for finding areas of triangles, parallelograms and circles. Calculate areas of triangles, parallelograms and circles.

Model the concept of volume for rectangular solids as the product of the area of the base and the height.

Convert measures of length, area, capacity, weight and time expressed in a given unit to other units in the same measurement system.

Estimate solutions to problems involving geometry and measurement. Determine when estimates are sufficient for the measurement situation.

Analyze problem situations, select appropriate strategies, and use an organized approach to solve non-routine and increasingly complex problems involving geometry and measurement. Use technology as appropriate.

Lesson Objective(s):

- The student will be able to exhibit knowledge of the elements of design. (Line, form, texture, shape, value, color, space.
- The student will be able to exhibit the use of measurement using a ruler.
- He student will exhibit the understanding of composition in reference to balance.
- The student will create an interesting 3D composition using learned elements and balance as a design principle.
- The student will create this box using poster board, pencil, and marker.
- As part of their study of the elements of design, students will create an original piece of artwork and exhibit their work in a specified location within the school building. (The library is a good location)
- A separate rubric for the composition and the construction of the artwork will also be used. Photographs of finished pieces will be placed in each student's portfolio as a sample of his/her work.

Materials/Equipment Needed:

Poster board, pencil, ruler, and marker

Lesson Procedure:

Lesson 1: Review the elements of design. Explain what the students will be doing and how that relates to these elements. They will be using what they have learned to create a 3d box out of poster board. Give students copies of the rubric that will be used for assessment of the artwork, so that they will know what expectations are from the start.